

Appl. No. 10/021,681
Amdt. dated Oct. 14, 2003
Reply to Office action of Sept. 15, 2003

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claim 1. (Currently amended): In combination with an actuator within which maximized magnetostriction deformation is induced by a magnetic field assembly ~~fields~~ crystallographically ~~applied~~ applying magnetic fields in a predetermined direction; the improvement residing in: an output member; means for transferring force produced by said applied magnetic fields in a direction perpendicular to said predetermined direction; and means for converting said transferred force into a substantially enlarged linear output motion of the output member.

Claim 2. (Original): The combination as defined in claim 1, including a plate member to which said output motion is imparted; and a plurality of magnetostrictive material slabs within which said magnetostrictive deformation is induced.

Claim 3. (Cancelled).

Claim 4. (Cancelled).

Claim 5. (Currently amended): The improvement as defined in claim 1, including means for exerting a prestress bias on the force transferring means in a direction perpendicular to both of said directions of the magnetic fields and the output motion.

Appl. No. 10/021,681
Amdt. dated Oct. 14, 2003
Reply to Office action of Sept. 15, 2003

Claim 6. (Currently amended): A magnetostrictive actuator, comprising: a ground member; an output member; magnetic circuit means for generating magnetic fields inducing maximized magnetostriction and linear output motion of the output member in one direction perpendicular to the maximized magnetostriction produced by applied application of the magnetic fields; and prestress means for holding the magnetic circuit means assembled under bias between the ground and the output members.

Claim 7. (Cancelled).

Claim 8. (New): The magnetostrictive actuator as defined in claim 6, wherein said bias of the prestress means is exerted in a direction perpendicular to both the maximized magnetostriction and the output motion.

Claim 9. (New): A magnetostrictive motor comprising: an output member to which linear output motion is imparted; a plurality of magnetostrictive material slabs to which magnetostrictive forces are applied by magnetic fields; and means for converting the magnetostrictive forces sequentially inducing deformation of the slabs into said linear output motion imparted to the output member.